

REMARKS

The specification has been amended to remove reference numerals not contained in the drawings and to include a detailed description of FIG. 3.

FIG. 3 has been amended to change the reference numeral "140" to "40."

Claims 1, 3, 4, 13, 14, 22, 28-30 and 33 have been amended. No new matter has been added. Claims 2, 6, and 34-59 have been canceled without prejudice to the underlying subject matter. Claims 1, 3-5, and 7-33 are currently pending in this application.

The drawings are objected to for failing to comply with 37 CFR § 1.84(p)(4) because the reference numeral "140" is used in FIGS. 1 and 3 to designate two different elements. FIG. 3 has been amended to correct this informality. Therefore, withdrawal of this objection is respectfully requested.

The drawings are also objected to for failing to comply with 37 CFR § 1.84(p)(5) since they do not include the reference numeral 66, 91, and 93, which are mentioned in the specification. The specification has been amended to change the reference numeral 66 to 58 to correctly reflect what is illustrated in the drawings. FIG. 2 has been amended to add the reference numerals 91 and 93. Accordingly, withdrawal of this objection is respectfully requested.

The drawings are further objected to for failing to comply with 37 CFR § 1.84(p)(5) as the reference numerals of FIG. 3 are not mentioned in the description. The specification is also objected to for lacking a detailed description of FIG. 3. The specification has been amended to include a detailed description of amended FIG. 3

and to describe the reference numerals shown in amended FIG. 3. Therefore, withdrawal of this objection is respectfully requested.

Applicant graciously acknowledges the allowance of claims 11, 12, and 15-19.

Claims 6, 22, 28-30 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Claim 6 has been canceled and its subject matter, along with that of claim 2, has been incorporated into claim 1. Accordingly, claim 1 and claims 2-10, which depend from claim 1, are now in condition for allowance. Additionally, claims 22, 28-30 and 33 have been rewritten in independent form to include all of the limitations of the base claim and any intervening claims, and these claims are now in condition for allowance. Therefore, withdrawal of this objection is respectfully requested.

Claims 13 and 14 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicant regards as the invention. Specifically, claims 13 and 14 refer to a heating step that is not claimed in claim 11, from which claims 13 and 14 depend. Claims 13 and 14 have been amended to depend from claim 12, which refers to a heating step. Therefore, withdrawal of this objection is respectfully requested.

Claims 20, 21, 23-25, and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 00/48196 ("196 application") in view of Sandhu. This rejection is respectfully traversed.

Claim 20 recites a method for "forming a resistance variable memory element" comprising the steps of, *inter alia*, "adding a metal to said resistance variable

material to form a metal containing resistance variable material" and "increasing the rigidity of said metal containing resistance variable material."

Both Sandhu and the '196 application, even when considered in combination, fail to teach or suggest all limitation of independent claim 20. Specifically, Sandhu and the '196 application fail to teach or suggest "increasing the rigidity of said metal containing resistance variable material," as recited by independent claim 20.

The '196 application teaches a microelectronic device including an ion conductor between two electrodes. The ion conductor can be formed of a solid solution of a chalcogenide glass with metal ions dissolved therein. '196 application at 7, lines 1-11. When a voltage is applied across the '196 application's microelectronic device, the conductive ions within the chalcogenide glass migrate to form an electrodeposit, which serves to decrease the resistance between the two electrodes. '196 application at 5, lines 15-20. The '196 application is silent about "increasing the rigidity of said metal containing resistance variable material," as recited by independent claim 20.

Sandhu teaches a memory cell including a chalcogenide layer that is deposited in an amorphous state and annealed to a crystalline state. Sandhu at col. 3, lines 25-32. Sandhu is silent about a "metal containing resistance variable material," as well as "increasing the rigidity of said metal containing resistance variable material," as recited by independent claim 20 (emphasis added). According to Sandhu, the memory cell is operated by electrically switching the structural state of the chalcogenide layer between a generally crystalline state and a generally amorphous state. Sandhu at col. 1, lines 21-25.

Accordingly, neither Sandhu nor the '196 application, even when considered in combination, teach or suggest all limitation of independent claim 20. For at least these reasons, withdrawal of this rejection is respectfully requested.

Claims 26, 31, and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 00/48196 ("196") in view of Sandhu and in further view of the APA. This rejection is respectfully traversed.

As discussed above, neither Sandhu nor the '196 application, even when considered in combination, teach or suggest all limitation of independent claim 20, from which claims 26, 31, and 32 depend. Applicant's APA does not supplement the deficiencies of Sandhu and the '196 application. Like Sandhu and the '196 application, the APA is silent about "increasing the rigidity of said metal containing resistance variable material," as recited by independent claim 20. Therefore, for at least these reasons, withdrawal of this rejection is respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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Attachments

ANNOTATED SHEET SHOWING CHANGES

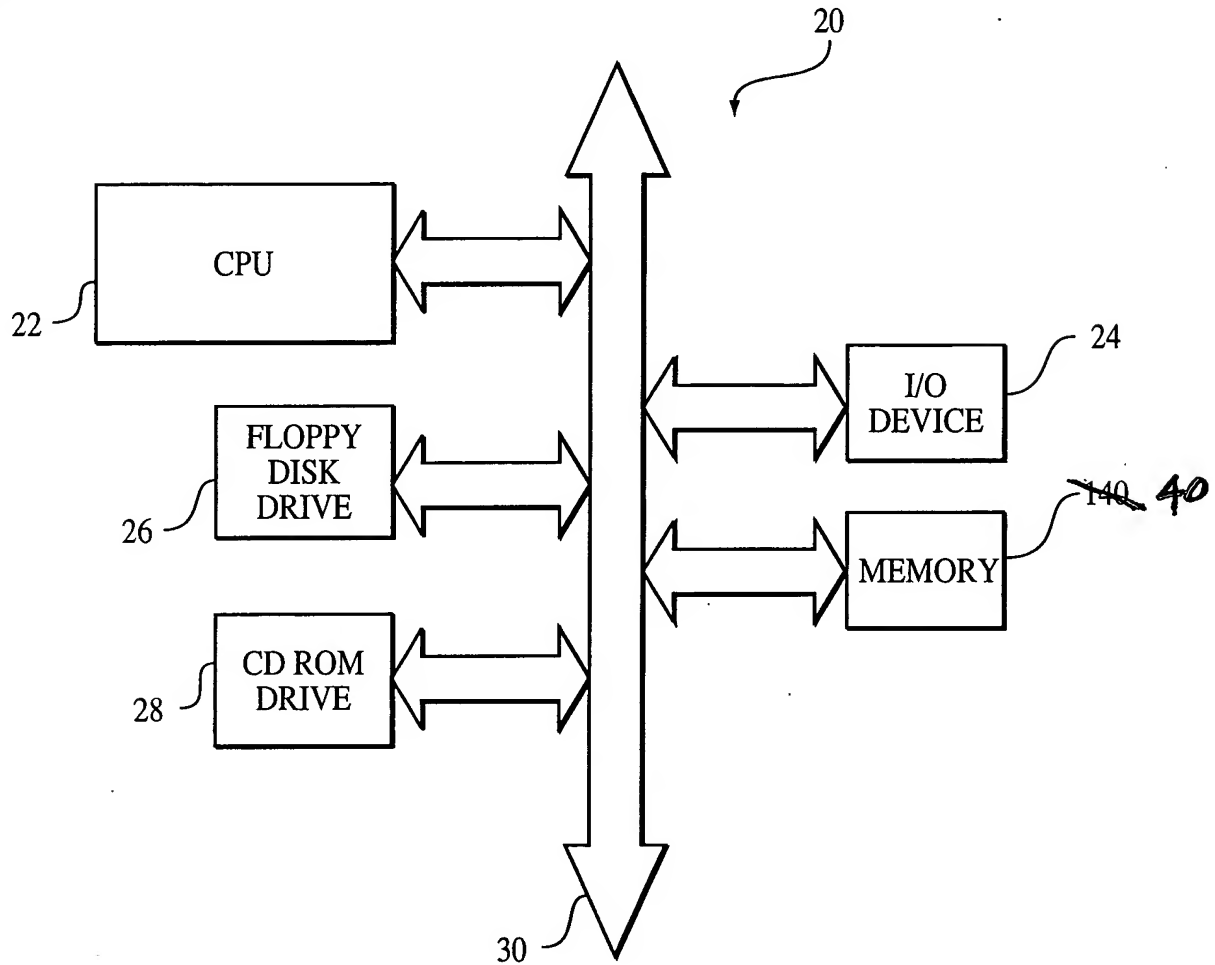


FIG. 3